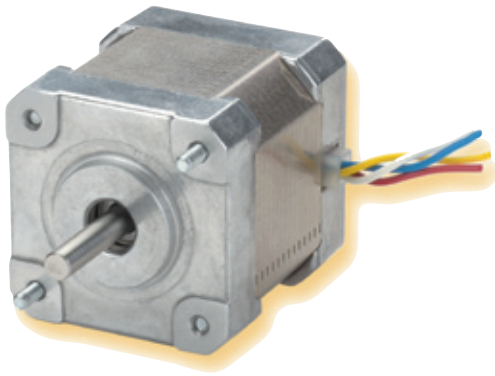


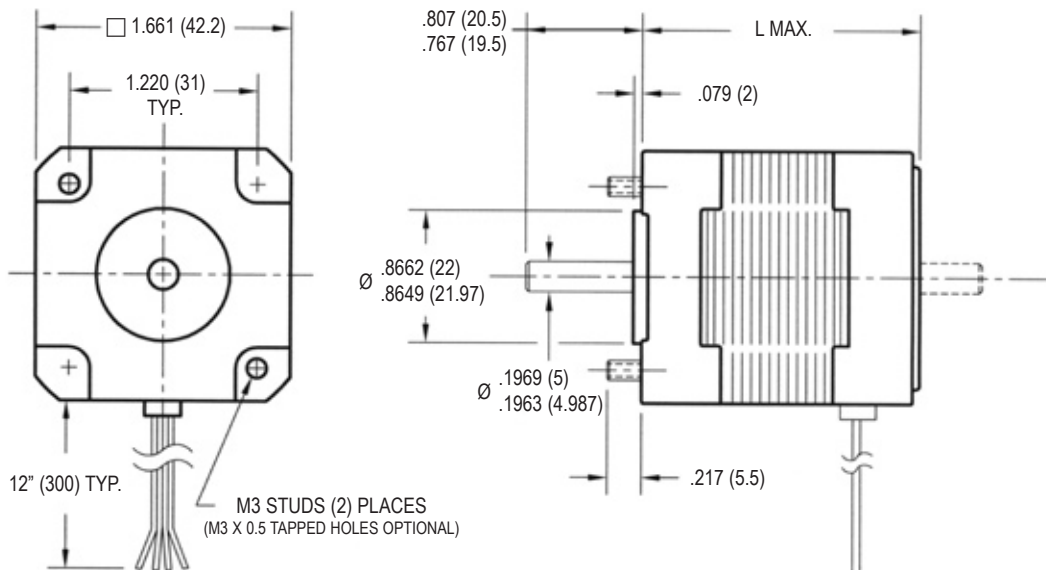
SIZE 17 STEPPER MOTOR DATA



- Step angle: 1.8°
- NEMA 17 mounting configuration
- AlNiCo magnets for high speed operation
- Additional windings and customization options available
- CE approved

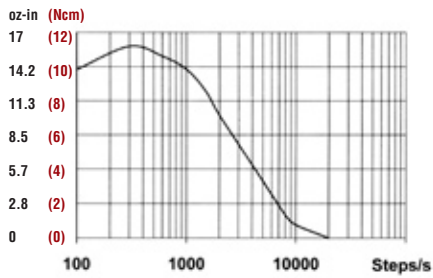
Specification	Units	Y 20 1713				Y 20 1717	Y 20 1718	
		0033 ✓	0040	0100 ✓	0150	0100	0090 ✓	0230
Rated Phase Current	A	0.33	0.40	1.00	1.5	1.00	0.90	2.30
Phase Resistance	Ω	23.9	15.6	5.6	1.0	4.6	4.2	0.72
Phase Inductance	mH	29.8	11.9	8.5	1.2	10.6	5.8	0.83
Holding Torque Unipolar	oz-in	—	15.9	—	—	—	—	—
	Ncm	—	11.2	—	—	—	—	—
Holding Torque Bipolar	oz-in	19.4	20.5	20.0	18.4	32.7	41.1	41.1
	Ncm	13.7	14.5	14.0	13.0	23.1	29.0	29.0
Detent Torque	oz-in	2.4	2.4	2.4	2.4	2.4	6.4	6.4
	Ncm	1.7	1.7	1.7	1.7	1.7	4.5	4.5
Rotor Inertia	oz-in-s ² x10 ⁻⁴	2.5	2.5	2.5	2.5	4.5	5.1	5.1
	g-cm ²	18	18	18	18	32	36	36
Motor Weight (Mass)	lb	0.4	0.4	0.4	0.4	0.7	0.7	0.7
	kg	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Maximum Voltage	V	40	40	40	40	40	40	40
Motor Length (Max)	in	1.34	1.34	1.34	1.34	1.69	1.81	1.81
	mm	34	34	34	34	43	46	46
Std. Leadwire Config. ⁽¹⁾	—	2	2	2	2	2	2	2
Std. No. of Leads	—	4	4	4	4	4	4	4

✓ Available through the MotionExpress program.
 (1) See standard leadwire configuration.



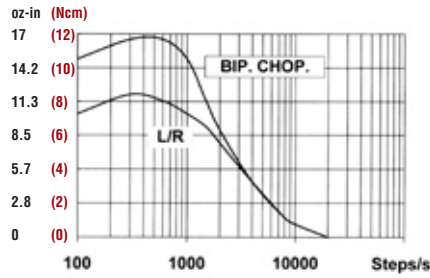
PULL-OUT TORQUE CURVES

Y 20 1713 0033



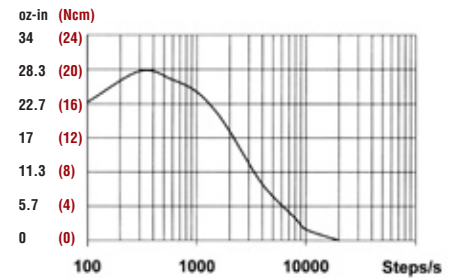
Drive: Bipolar chopper, 36V, 0.33A/Phase

Y 20 1713 0040



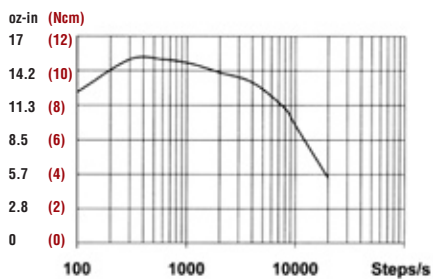
Drive: Bipolar chopper, Series 36V, 0.29A/Phase
Drive: Unipolar L/R, 36V, RS=70ohm

Y 20 1713 0100



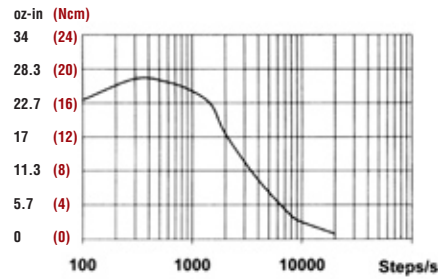
Drive: Bipolar chopper, 36V, 1A/Phase

Y 20 1713 0150



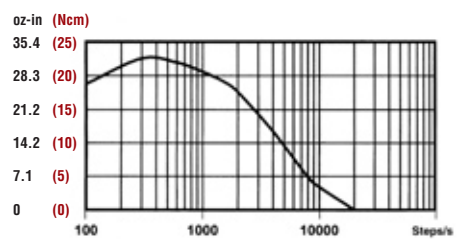
Drive: Bipolar chopper, 36V, 1.5A/Phase

Y 20 1717 0100



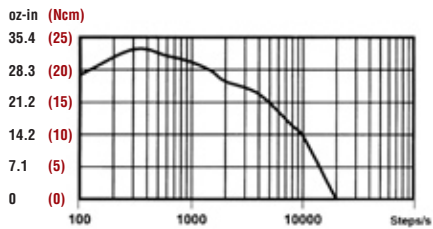
Drive: Bipolar chopper, 36V, 1A/Phase

Y 20 1718 0090



Drive: Bipolar chopper, 36V, 0.9A/Phase

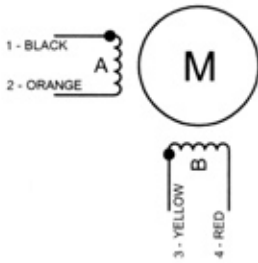
Y 20 1718 0230



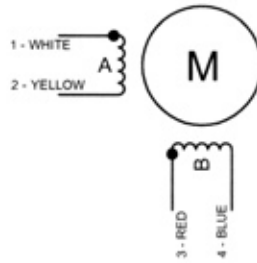
Drive: Bipolar chopper, 36V, 2.3A/Phase

STANDARD LEADWIRE CONFIGURATION

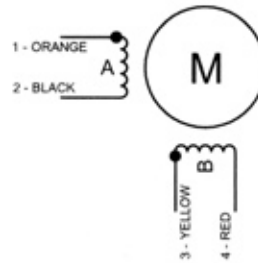
CONFIGURATION #1



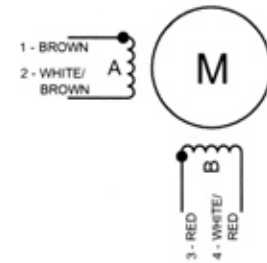
CONFIGURATION #2



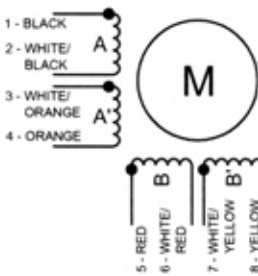
CONFIGURATION #3



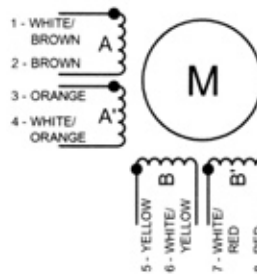
CONFIGURATION #4



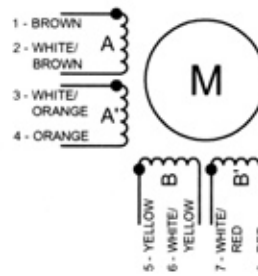
CONFIGURATION #5



CONFIGURATION #6



CONFIGURATION #7



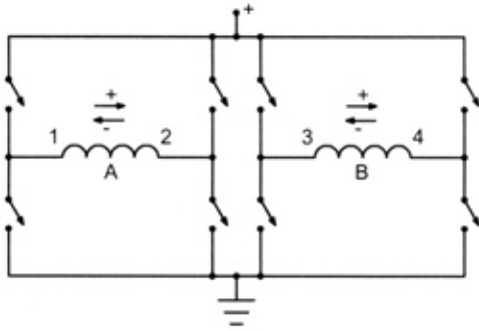
CONNECTION-DEPENDENT RATINGS FOR 8 LEAD MOTORS

Stepper motors supplied with 8 leads provide maximum flexibility and allow the user to decide what connection method is most suitable for their application. Some of the motor phase characteristics are dependent on the connection method chosen for the windings.

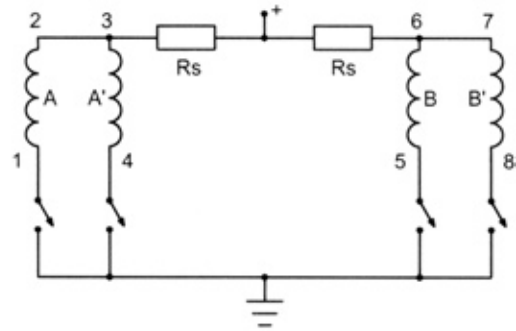
The values for current, resistance, and inductance shown in the data tables for 8 lead motors assume a unipolar connection and measure from the center tap to the end of one winding. To determine the phase characteristics for other connection methods, multiply the given unipolar ratings by the conversion factors listed in the chart below that correspond to the chosen connection method.

	Unipolar Connection	Bipolar Series Connection	Bipolar Parallel Connection
Rated Phase Current	1	0.7	1.4
Phase Resistance	1	2	0.5
Phase Inductance	1	4	1

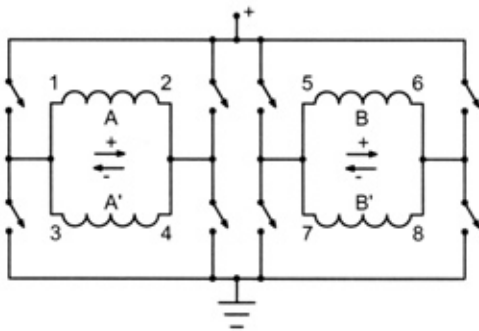
BIPOLAR



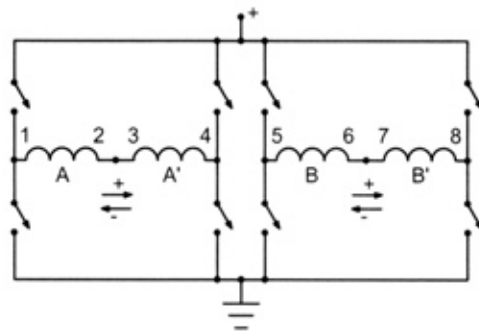
UNIPOLAR



BIPOLAR (PARALLEL)



BIPOLAR (SERIES)



STEP SEQUENCES

FULL STEP OPERATION

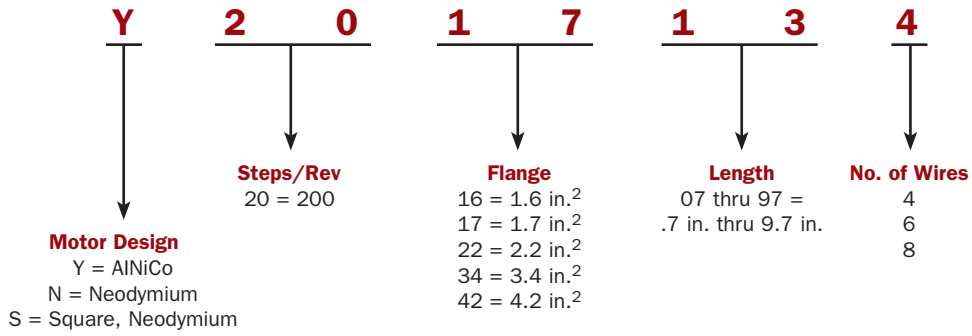
HALF STEP OPERATION

One Phase On					
Unipolar				Bipolar	
	A	A'	B	B'	
1	+	0	0	0	1 0 +
2	0	0	+	0	2 - 0
3	0	+	0	0	3 0 -
4	0	0	0	+	4 + 0
1	+	0	0	0	1 0 +

Two Phases On					
Unipolar				Bipolar	
	A	A'	B	B'	
1	+	0	0	+	1 + -
2	+	0	+	0	2 + +
3	0	+	+	0	3 - +
4	0	+	0	+	4 - -
1	+	0	0	+	1 + -

Unipolar					Bipolar		
	A	A'	B	B'		A	B
1	+	0	0	+	1	+	+
2	+	0	0	0	2	0	+
3	+	0	+	0	3	-	+
4	0	0	+	0	4	-	0
5	0	+	+	0	5	-	-
6	0	+	0	0	6	0	-
7	0	+	0	+	7	+	-
8	0	0	0	+	8	+	0
1	+	0	0	+	1	+	+

PART NUMBER DESCRIPTION



The part number description above may also contain a factory assigned suffix of up to seven additional characters. When ordering, please specify the part number according to the system. For first time orders, omit the factory assigned suffix, but specify the winding designation and any additional customization requests.

Specifications subject to change without notice.

